

Feedback Control of a Chemical Mechanical Polishing Device
Providing Manipulation of Removal Rate Profiles

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5

Abstract of the Disclosure

A method of controlling surface non-uniformity of a wafer in a polishing operation includes (a) providing a model for a wafer polishing that defines a plurality of regions on a wafer and identifies a wafer material removal rate in a polishing step of a polishing process for each of the regions, wherein the polishing process comprises a plurality of polishing steps, (b) polishing a wafer using a first polishing recipe based upon an incoming wafer thickness profile, (c) determining a wafer thickness profile for the post-polished wafer of step (b), and (d) calculating an updated polishing recipe based upon the wafer thickness profile of step (c) and the model of step (a) to maintain a target wafer thickness profile. The model can provide information about the tool state to improve the model quality. The method can be used to provide feedback to a plurality of platen stations.

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